

slip/slide alarm of each locomotive shall be shown in the cab of the controlling locomotive.

(b) Except as provided in § 229.9, an equipped locomotive may not be dispatched in road service, or continue in road service following a daily inspection, unless the wheel slip/slide protective device of whatever type—

(1) Is functioning for each powered axle under power; and

(2) Would function on each powered axle if it were under power.

(c) Effective January 1, 1981, all new locomotives capable of being used in road service shall be equipped with a device that detects wheel slip/slide for each powered axle when it is under power. The device shall produce an audible or visual alarm in the cab.

**§ 229.117 Speed indicators.**

(a) After December 31, 1980, each locomotive used as a controlling locomotive at speeds in excess of 20 miles per hour shall be equipped with a speed indicator which is—

(1) Accurate within  $\pm 3$  miles per hour of actual speed at speeds of 10 to 30 miles per hour and accurate within  $\pm 5$  miles per hour at speeds above 30 miles per hour; and

(2) Clearly readable from the engineer's normal position under all light conditions.

(b) Each speed indicator required shall be tested as soon as possible after departure by means of speed test sections or equivalent procedures.

**§ 229.119 Cabs, floors, and passageways.**

(a) Cab seats shall be securely mounted and braced. Cab doors shall be equipped with a secure and operable latching device.

(b) Cab windows of the lead locomotive shall provide an undistorted view of the right-of-way for the crew from their normal position in the cab. (See also, Safety Glazing Standards, 49 CFR part 223, 44 FR 77348, Dec. 31, 1979.)

(c) Floors of cabs, passageways, and compartments shall be kept free from oil, water, waste or any obstruction that creates a slipping, tripping or fire hazard. Floors shall be properly treated to provide secure footing.

(d) The cab shall be provided with proper ventilation and with a heating arrangement that maintains a temperature of at least 50 degrees Fahrenheit 6 inches above the center of each seat in the cab.

(e) Similar locomotives with open end platforms coupled in multiple control and used in road service shall have a means of safe passage between them; no passageway is required through the nose of car body locomotives. There shall be a continuous barrier across the full width of the end of a locomotive or a continuous barrier between locomotives.

(f) Containers shall be provided for carrying fusees and torpedoes. A single container may be used if it has a partition to separate fusees from torpedoes. Torpedoes shall be kept in a closed metal container.

**§ 229.121 Locomotive cab noise.**

(a) After August 31, 1980, the permissible exposure to a continuous noise in a locomotive cab shall not exceed an eight-hour time-weighted average of 90dB(A), with a doubling rate of 5dB(A) as indicated in the table. Continuous noise is any sound with a rise time of more than 35 milliseconds to peak intensity and a duration of more than 500 milliseconds to the time when the level is 20dB below the peak.

Duration permitted (hours)	Sound level (dB(A))
12 .....	87
8 .....	90
6 .....	92
4 .....	95
2 .....	100
1½ .....	102
1 .....	105
½ .....	110
¼ or less .....	115

(b) When the continuous noise exposure is composed of two or more periods of noise exposure of different levels, their combined effect shall be considered. Exposure to different levels for various periods of time shall be computed according to the following formula:

$$D = T_1/L_1 + T_2/L_2 + \dots T_n/L_n$$

where:  
D = noise dose.